

CLAIMS

1. A linear light-emitting element characterized in that a light-emitting region and a light-emitting control region for controlling light-emitting intensity of said light-emitting region are formed in the longitudinal direction continuously or intermittently.
2. A linear light-emitting element characterized in that a plurality of sections forming a light-emitting region and a light-emitting control region for controlling light-emitting intensity of said light-emitting region are formed in the longitudinal direction continuously or intermittently.
3. A linear light-emitting element in claim 1 or 2, wherein the sectional shape is circular, polygonal, star-shaped, crescent, petal, character or any other arbitrary shapes.
4. A linear light-emitting element in any of claims 1 to 3, wherein said light-emitting region is made of an organic EL film.
5. A linear light-emitting element in any of claims 1 to 3, wherein said light-emitting region is made of a multilayered film including an organic EL film.

6. A linear light-emitting element in claim 5, wherein said multilayered film including the organic EL film is a multilayered film including at least an electron transport layer or an electron injection layer, and said electron transport layer or said electron injection layer is made of an alkali-metal including fullerene or an organic material doped with alkali-metal including fullerene.

7. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a source region, a semiconductor region, a gate electrode and a drain region formed in the section, in which said source region is provided at the center and said semiconductor region, said light-emitting region and said drain region are sequentially formed outside thereof and a plurality of said gate electrodes are arranged within said semiconductor region surrounding said source region.

8. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a source region, a semiconductor region, a gate electrode and a drain region formed in the section, in which a first central region is provided at the center and said source region, said semiconductor region, said light-emitting region and said drain region are sequentially formed outside thereof, a plurality of said gate electrodes are arranged within said semiconductor region surrounding said

source region, and said first central region is made of a hollow region, insulator region, semiconductor region or conductor region.

9. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a drain region, a semiconductor region, a gate electrode and a source region formed in the section, in which said drain region is provided at the center and said semiconductor region, said light-emitting region and said source region are sequentially formed outside thereof, and a plurality of said gate electrodes are arranged within said semiconductor region surrounding said drain region.

10. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a drain region, a semiconductor region, a gate electrode and a source region formed in the section, in which a first central region is provided at the center and said drain region, said semiconductor region, said light-emitting region and said source region are sequentially formed outside thereof, a plurality of said gate electrodes are arranged within said semiconductor region surrounding said drain region and said first central region is made of a hollow region, insulator region, semiconductor region or conductor region.

11. A linear light-emitting element in any of claims 7 to 10, wherein said light-emitting region is made of a red light-emitting region, a green light-emitting region and a blue light-emitting region.

12. A linear light-emitting element in claim 11, wherein said red light-emitting region, said green light-emitting region and said blue light-emitting region are arranged in a first sectional region obtained by dividing said section with a straight line passing through the center of said section, and a reflection region is arranged in an opposing second sectional region.

13. A linear light-emitting element in any of claims 7 to 8, wherein a red transmission filter region, a green transmission filter region and a blue transmission filter region are arranged surrounding said drain region.

14. A linear light-emitting element in any of claims 9 to 10, wherein a red transmission filter region, a green transmission filter region and a blue transmission filter region are arranged surrounding said source region.

15. A linear light-emitting element in any of claims 7 to 14, wherein said semiconductor region is made of an N-type semiconductor material and said gate electrode is made of a P-type semiconductor material.

16. A linear light-emitting element in any of claims 7 to 14, wherein said semiconductor region is made of a P-type semiconductor material and said gate electrode is made of an N-type semiconductor material.

17. A linear light-emitting element in any of claims 7 to 14, wherein said semiconductor region is made of an N-type semiconductor material and said gate electrode is made of a conductive material.

18. A linear light-emitting element in any of claims 7 to 14, wherein said semiconductor region is made of a P-type semiconductor material and said gate electrode is made of a conductive material.

19. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a gate electrode, a gate insulating film, an anode and a cathode formed in the section, said gate electrode is provided at the center, said gate insulating film, said anode having an opening, said light-emitting region and said cathode are sequentially formed outside thereof, and said cathode is formed on said light-emitting region in contact with said anode opening.

20. A linear light-emitting element in any of claims 1 to

6, wherein said light-emitting control region is made of a gate electrode, a gate insulating film, an anode and a cathode formed in the section, a first central region is provided at the center, said gate electrode, said gate insulating film, said anode having an opening, said light-emitting region and said cathode are sequentially formed outside thereof, said cathode is formed on said light-emitting region in contact with said anode opening, and said first central region is made of a hollow region, insulator region, semiconductor region or conductor region.

21. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a gate electrode, a gate insulating film, an anode and a cathode formed in the section, said gate electrode is provided at the center, said gate insulating film, said cathode having an opening, said light-emitting region and said anode are sequentially formed outside thereof, and said anode is formed on said light-emitting region in contact with said cathode opening.

22. A linear light-emitting element in any of claims 1 to 6, wherein said light-emitting control region is made of a gate electrode, a gate insulating film, an anode and a cathode formed in the section, a first central region is provided at the center, said gate electrode, said gate insulating film, said cathode having an opening, said

light-emitting region and said anode are sequentially formed outside thereof, said anode is formed on said light-emitting region in contact with said cathode opening, and said first central region is made of a hollow region, insulator region, semiconductor region or conductor region.

23. A light-emitting device made of a linear light-emitting element in any of claims 1 to 22.

24. A light-emitting device in claim 23, wherein it is a display device.

25. A light-emitting device in claim 23, wherein it is an illuminating device.

26. A light-emitting element comprised by a substrate, a gate electrode layer arranged on said substrate, a gate insulating layer arranged on said gate electrode layer, a first electrode arranged on said gate insulating layer, a light-emitting film arranged on said gate insulating layer and said first electrode and a second electrode arranged on said light-emitting film, characterized in that said second electrode is arranged diagonally above said first electrode or separated in the lateral direction with respect to said first electrode.

27. A light-emitting element in claim 26, wherein an

interval between said first electrode and said second electrode is  $-5\mu\text{m}$  to  $10\mu\text{m}$ .

28. A light-emitting element in claim 26, wherein an interval between said first electrode and said second electrode is  $0.5\mu\text{m}$  to  $3\mu\text{m}$ .

29. A light-emitting element in claim 26 or 28, wherein said first electrode is an anode and said second electrode is a cathode.

30. A light-emitting element in claim 26 or 28, wherein said first electrode is a cathode and said second electrode is an anode.

31. A light-emitting element in claim 29, wherein said light-emitting film is a 3-layer film made of a positive-hole transport layer, a light-emitting layer arranged on said positive-hole transport layer, and an electron transport layer arranged on said light-emitting layer.

32. A light-emitting element in claim 30, wherein said light-emitting film is a 3-layer film made of an electron transport layer, a light-emitting layer arranged on said electron transport layer, and a positive-hole transport layer arranged on said light-emitting layer.

33. A light-emitting element in claim 29, wherein said light-emitting film is a 4-layer film made of a positive-hole injection layer, a positive-hole transport layer arranged on said positive-hole injection layer, a light-emitting layer arranged on said positive-hole transport layer, and an electron transport layer arranged on said light-emitting layer.

34. A light-emitting element in claim 30, wherein said light-emitting film is a 4-layer film made of an electron injection layer, a light-emitting layer arranged on said electron injection layer, a positive-hole transport layer arranged on said light-emitting layer, and a positive-hole injection layer arranged on said positive-hole injection layer.

35. A light-emitting element in claim 29, wherein said light-emitting film is a 5-layer film made of a positive-hole injection layer, a positive-hole transport layer arranged on said positive-hole injection layer, a light-emitting layer arranged on said positive-hole transport layer, an electron transport layer arranged on said light-emitting layer, and an electron injection layer arranged on said electron transport layer.

36. A light-emitting element in claim 30, wherein said light-emitting film is a 5-layer film made of an electron

injection layer, an electron transport layer arranged on said electron injection layer, a light-emitting layer arranged on said electron transport layer, a positive-hole transport layer arranged on said light-emitting layer, a positive-hole injection layer arranged on said positive-hole transport layer.

37. A light-emitting device characterized in that a plurality of light-emitting elements made of a light-emitting element in any of claims 26 to 36 are arranged in the array state.

38. A light-emitting device in claim 37, wherein it is a display device.

39. A light-emitting device in claim 37, wherein it is an illuminating device.

40. A light-emitting element in any of claims 26 to 36, wherein a protective insulating film is arranged on said light-emitting film and said second electrode.

41. A light-emitting element in any of claims 26 to 36, wherein a color filter film is arranged on said light-emitting film and said second electrode.